

Receipt date: 08/16/2007

PTO/SB/08a (08-03)
 Approved for use through 10/13/2006, 2006-08-05, 10-01-06
 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
 10588369, GAU: 2895

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)

Application Number	10588369
Filing Date	2006-08-04
First Named Inventor	Uri BANIN
Art Unit	
Examiner Name	
Attorney Docket Number	BANIN4B

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	5505928		1996-04-09	ALIVISATOS et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20020175408	A1	2002-11-28	Arun MAJUMDAR et al.	
	2	20030010987	A1	2003-01-16	Uri BANIN et al.	
	3	20040007964	A1	2004-01-15	Ga-Lane CHEN	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	03054953	WO	A1	2003-07-03	The Regents of The University of California et al.		<input type="checkbox"/>

Receipt date: 08/16/2007

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number		10588369
Filing Date		2006-08-04 10588369 - GAU: 2895
First Named Inventor	Uri BANIN	
Art Unit		
Examiner Name		
Attorney Docket Number		BANIN4B

2	03097904	WO	A1	2003-11-27	Yissum Research Development Co. of The Hebrew Univ	<input type="checkbox"/>
3	9106036	WO	A1	1991-05-02	Research Corporation Technologies, Inc.	<input type="checkbox"/>
4	0229140	WO	A1	2002-04-11	The Board of Trustees of The Univ. of Arkansas	<input type="checkbox"/>
5	02079514	WO	A1	2002-10-10	The Trustees of Boston College	<input type="checkbox"/>
6	03091458	WO	A1	2003-11-06	The Penn State Research Foundation	<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	BANIN, Uri, et al., "Tunnelling and Optical Spectroscopy of Semiconductor Nanocrystals", Annu. Rev. Phys. Chem., 2003, vol. 54, pp. 465-492.	<input type="checkbox"/>
	2	BRAUN, Erez, et al., "DNA-templated assembly and electrode attachment of a conducting silver wire", Nature, February 19, 1998, vol. 391, pp. 773-776.	<input type="checkbox"/>
	3	COUCOUVANIS, Dimitri, "The Chemistry of the Dithioacid and 1, 1-Dithiolate Complexes", Progress in Inorganic Chemistry, 1970, vol. 11, Interscience Publishers, New York, pp. 234-235.	<input type="checkbox"/>
	4	CRETIER, J.E., et al., "The Crystal Structure of the Beta Form of Gold Selenide, β -AuSe.", Mat. Res. Bull., 1973, vol. 8, pp. 1427-1430.	<input type="checkbox"/>

Receipt date: 08/16/2007

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Not for submission under 37 CFR 1.99)

Application Number	10588369	
Filing Date	2006-08-04	10588369 - GAU: 2895
First Named Inventor	Uri BANIN	
Art Unit		
Examiner Name		
Attorney Docket Number	BANIN4B	

5	CUI, Yi, et al., "Functional Nanoscale Electronic Devices Assembled Using Silicon Nanowire Building Blocks", Science, February 2, 2001, vol. 291, pp. 851-853.	<input type="checkbox"/>
6	DUMESTRE, F., et al., "Superlattices of Iron Nanocubes Synthesized from Fe[N(SiMe3)2]2", Science, February 6, 2004, vol. 303, pp. 821-823.	<input type="checkbox"/>
7	FAN, Chunhai, et al., "Beyond superquenching: Hyper-efficient energy transfer from conjugated polymers to gold nanoparticles", PNAS, May 27, 2003, vol. 100, no. 11, pp. 6297-6301.	<input type="checkbox"/>
8	GOLDBERGER, Joshua, et al., "Single-crystal gallium nitride nanotubes", Nature, April 10, 2003, vol. 422, pp. 599-601.	<input type="checkbox"/>
9	GOMEZ, Silvia, et al., "Gold nanoparticles from self-assembled gold(I) amine precursors", Chem. Commun., 2000, pp. 1945-1946.	<input type="checkbox"/>
10	GUIDIKSEN, Mark S., et al., "Growth of nanowire superlattice structures for nanoscale photonics and electronics", Nature, February 7, 2002, vol. 415, pp. 617-620.	<input type="checkbox"/>
11	HEINZE, S., et al., "Carbon Nanotubes as Schottky Barrier Transistors", Physical Review Letters, September 2, 2002, vol. 89, no. 10, pp. 406804.1-406804.4.	<input type="checkbox"/>
12	JAVEY, Ali, et al., "Ballistic carbon nanotube field-effect transistors", Nature, August 7, 2003, vol. 424, pp. 654-657.	<input type="checkbox"/>
13	JIN, R., et al., "Photoinduced Conversion of Silver Nanospheres to Nanoprisms", Science, November 30, 2001, vol. 294, pp. 1901-1903.	<input type="checkbox"/>
14	JONES, R.M., et al., "Building highly sensitive dye assemblies for biosensing from molecular building blocks", PNAS, December 18, 2001, vol. 98, no.26, pp. 14769-14772.	<input type="checkbox"/>
15	KAN, G., et al., "Synthesis and size-dependent properties of zinc-blende semiconductor quantum rods", Nature Materials, March 2003, vol. 2, pp. 155-158.	<input type="checkbox"/>

Receipt date: 08/16/2007

Application Number		10588369
Filing Date		2006-08-04 10588369 - GAU: 2895
First Named Inventor	Uri BANIN	
Art Unit		
Examiner Name		
Attorney Docket Number		BANIN4B

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

16	KEREN, K., et al., "DNA Templated Carbon Nanotube Field Effect Transistor", Science, November 21, 2003, Vol. 302, pp. 1380-1382.	<input type="checkbox"/>
17	KLEIN, D. et al., "A single-electron transistor made from a cadmium selenide nanocrystal", Nature, October 16, 1997, vol. 389, pp. 699-701.	<input type="checkbox"/>
18	MANNA, L., et al., "Controlled growth of tetrapod-branched inorganic nanocrystals", Nature Materials, June 2003, vol. 2, pp. 382-385.	<input type="checkbox"/>
19	MANNA, L. et al., "Synthesis of Soluble and Processible Rod-, Arrow-, Teardrop-, and Tetrapod-Shaped CdSe Nanocrystals", J. Am. Chem. Soc., 2000, vol. 122, pp. 12700-12706.	<input type="checkbox"/>
20	MOKARI, T., et al., "Synthesis and Properties of CdSe/ZnS Core/Shell Nanorods", Chem. Mater., 2003, vol. 15, pp. 3955-3960.	<input type="checkbox"/>
21	MURRAY, C.B., et al., "Synthesis and Characterization of Nearly Monodisperse CdE (E=S, Se, Te) Semiconductor Nanocrystallites", J. Am. Chem. Soc., 1993, vol. 115, pp. 8706-8715.	<input type="checkbox"/>
22	NAHUM, E., et al., "Transport and Charging in Single Semiconductor Nanocrystals Studied by Conductance Atomic Force Microscopy", Nano Letters, 2004, vol. 4, no. 1, pp. 103-108.	<input type="checkbox"/>
23	PENG, X. et al., "Shape control of CdSe nanocrystals", Nature, March 2000, vol. 404, pp. 59-61.	<input type="checkbox"/>
24	PENG, Z. et al., "Mechanisms of the Shape Evolution of CdSe Nanocrystals", J. Am. Chem. Soc., 2001, vol. 123, pp. 1389-1395.	<input type="checkbox"/>
25	TALAPIN, D. et al., "Highly Emissive Colloidal CdSe/CdS Heterostructures of Mixed Dimensionality", Nano Letters, 2003, vol. 3, no. 12, pp. 1677-1681	<input type="checkbox"/>
26	TANG, Z. et al., "Spontaneous Organization of Single CdTe Nanoparticles into Luminescent nanowires", Science, July 12, 2002, vol. 297, pp. 237-240.	<input type="checkbox"/>

Receipt date: 08/16/2007

Application Number		10588369
Filing Date		2006-08-04 10588369 - GAU: 2895
First Named Inventor	Uri BANIN	
Art Unit		
Examiner Name		
Attorney Docket Number	BANIN4B	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

	27	WU, Y. et al., "Block-by-Block Growth of Single-Crystalline Si/SiGe Superlattice Nanowires", Nano Letters, 2002, vol. 2, no. 2, pp. 83-86.	<input type="checkbox"/>
	28	YAMAMOTO, M. et al., "Novel preparation of monodispersed silver nanoparticles via amine adducts derived from insoluble silver myristate in tertiary alkylamine", J. Mater. Chem., 2003, vol. 13, pp. 2064-2065.	<input type="checkbox"/>
	29	YAN, H. et al., "DNA-Templated Self-Assembly of Protein Arrays and Highly Conductive Nanowires", Science, September 26, 2003, vol. 301, pp. 1882-1884.	<input type="checkbox"/>
	30	YU, W. et al., "Formation and Stability of Size-, Shape-, and Structure-Controlled CdTe Nanocrystals: Ligand Effects on Monomers and Nanocrystals", Chem. Mater., 2003, vol. 15, pp. 4300-4308.	<input type="checkbox"/>
	31	Alfredo M. MORALES et al., "A LASER ABLATION METHOD FOR THE SYNTHESIS OF CRYSTALLINE SEMICONDUCTOR NANOWIRE", Science, Vol. 279, January 9, 1998, pages 208-211	<input type="checkbox"/>
	32	Wendy U. HUYNH et al., "HYBRID NANOROD-POLYMER SOLAR CELLS", Reports, Science, Vol. 295, March 29, 2002, pages 2425-2427	<input type="checkbox"/>
	33	MIRI KAZES et al., "LASING FROM SEMICONDUCTOR QUANTUM RODS IN A CYLINDRICAL MICROCAVITY", aDV. mATER. 2002, Vol. 14, No. 4 pages 317-321	<input type="checkbox"/>
	34	GUANGTAO LI et al., "Spherical and Planar Gold(0) Nanoparticles with a Rigid Gold(I)-Anion or a Fluid Gold(0)-Acetone Surface", 2003 American Chemical Society, Vol .19 pages 6483-6491	<input type="checkbox"/>
	35	R. KRUPKE et al., "Contacting single bundles of carbon nanotubes with altering electric fields", Applied Physics A, Materials Science & Processing, October 28, 2002, pages 397-400	<input type="checkbox"/>
	36	MICHAL JACOBSON et al., "SIZE DEPENDENCE OF SECOND HARMONIC GENERATION IN CDSE NANOCRYSTAL QUANTUM DOTS", Depart. of Physical Chemistry and the Farkas Center for Light-Induced Processes, The Hebrew University of Jerusalem, Vol. 104, No. 1, January 13, 2000	<input type="checkbox"/>
	37	W. RECHBERGER et al., "OPTICAL PROPERTIES OF TWO INTERACTING GOLD NANOPARTICLES", Optics Communications, Vol. 220, 2003, pages 137-141	<input type="checkbox"/>

Receipt date: 08/16/2007

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Not for submission under 37 CFR 1.99)

Application Number	10588369	
Filing Date	2006-08-04	10588369 - GAU: 2895
First Named Inventor	Uri BANIN	
Art Unit		
Examiner Name		
Attorney Docket Number	BANIN4B	

38

C. SONNICHSEN et al., "DRASTIC REDUCTION OF PLASMON DAMPING IN GOLD NANORODS", Photonics and Optoelectronics Group, Physics Depart. and CeNSVol. 88, No. 7, February 18, 2002, pages 1-4

☐

39

R. SOLANKI et al., "Atomic Layer deposition of ZnSe/CdSe superlattice Nanowires", Applied Physics Letters, Vol. 81, No. 20, November 11, 2002, pages 3864-3866

☐

40

TALEB MOKARI et al., "Selective Growth of Metal Tips onto Semiconductor Quantum Rods and Tetrapods", Reports, Vol. 304, June 18, 2004, pages 17871790

☐

41

YOUNG-WOOK JUN et al., "Controlled Synthesis of Multi-armed CdS Nanorod Architectures Using Monosurfactant System", J. Am. Chem. Soc. 2001, Vol. 123, pages 5150-5151

☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/John Duika/	Date Considered	/J.D./ 02/25/2009
--------------------	--------------	-----------------	-------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.D./

Receipt date: 08/16/2007

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Not for submission under 37 CFR 1.99)

Application Number	10588369	
Filing Date	2006-08-04	10588369 - GAU: 2895
First Named Inventor	Uri BANIN	
Art Unit		
Examiner Name		
Attorney Docket Number	BANIN4B	

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/SN/	Date (YYYY-MM-DD)	2007-08-16
Name/Print	Sheridan Neimark	Registration Number	20520

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.